

new matter in this edition is shown by the fact that the section included in the present volume of 727 pages occupied only 368 pages in the previous edition; this is partly due to the extension of existing monographs which has been necessary in revising them and bringing them up to date, and partly to the addition of many new monographs.

The fourth edition of *Allen's Commercial Organic Analysis*,⁵ which has been appearing volume by volume in the last two or three years, is in many respects a new work. The production of the whole has been entrusted to three editors, two American and one English, and these gentlemen have secured for each volume the collaboration of various other chemists who have made a special study of the subjects dealt with therein. The result is an encyclopaedic work by some fifty chemists, in which a vast amount of special information is given, but which differs widely from the original work by the late Mr. A. H. Allen. Probably the increase in the amount of material available necessitated some such change, but, valuable as the present edition is, the difference is not entirely in its favour. The tendency is to give too much information, instead of only such as is naturally looked for under the title "commercial analysis," and one misses sometimes the practical character which marked the original work, and showed the hand of the practising analyst. Volume VII of the book is the latest to appear; this corresponds to Part III of Volume III of the previous edition, and deals with some vegetable alkaloids left over from Volume VI, with glucosides, non-glucosidal bitter principles such as aloin, animal bases, ptomaines, animal acids, lactic acid, and cyanogen and its derivatives; it is the work of four American and three English chemists. A large proportion of the substances treated of are therefore among those used in medicine—the alkaloids of colchicum, ergot, ipecacuanha, jaborandi, and physostigma are dealt with, while among non-alkaloidal bodies the glucosides of digitalis, the aloins, piperazine, urea, creatine, lactic acid, and the cyanides may be mentioned. It is somewhat surprising that in twenty-four pages devoted to lactic acid there is not a single reference to the Bulgarian sour milk which has proved during recent years such a useful adjunct to treatment in many cases. Four and a half pages are given to the estimation of urea, and the section commences with the remark that "the estimation of the urea contained in urine is often of great physiological and pathological interest"; but the only methods described are one by precipitation as oxalate, intended to be applied to blood or extracts of tissues; another by conversion into ammonia (Kjeldahl's method), with precautions to prevent other nitrogenous substances present in urine from being also converted; and a third by conversion to ammonia in an autoclave. But surely it would have been proper to have made some reference to the method of decomposing the urea and measuring the nitrogen, which is commonly employed in practical urine testing, and is sufficiently accurate to give valuable comparative results. It is hardly necessary to say, however, that these criticisms are not intended to detract from the great value and usefulness of this comprehensive work.

VETERINARY PHYSIOLOGY.

MAJOR-GENERAL F. SMITH, in *A Manual of Veterinary Physiology*,⁶ has fulfilled an interesting task by accomplishing what he imposed upon himself, a work essentially a veterinary physiology; but his statement that it is not a comparative physiology arouses dissent. In the nature of things, physiology must be a comparative science, as its conclusions are based upon evidence drawn from various branches of animal life. The veterinary aspect is maintained in this work largely by valuable remarks on clinical and pathological matters bearing upon the domestic animals. But the observations are extended also to man upon occasion. The work is intended for students as well as practitioners, but much that swells the pages of most textbooks on physiology has been eliminated,

while the essentials have been collected without excessive detail. The design has been to teach, rather than the cultivation of induction and deduction.

One of the first questions of a tiro might well be, "What is physiology?" and it would be of advantage to find his query anticipated in an introduction unfolding the scope of the science. Such an introduction might include a description of the cell, the cell being the foundation of biology. Cytology seems to offer a master key by means of which an entrance may be effected into the domain of the physiology of the structures composed of cell aggregates. In the work before us there is some account of the cell on page 698. This account is not prolix, but the phraseology is not always exact: "As the cells die or are worn out, their places are taken by others, and this process is occurring from the moment the egg is impregnated." Surely the cell does not die or become worn out from the moment of impregnation of the ovum. The following (p. 698) also requires reconstruction: "Within this minute speck of material is contained all the elements of life," etc., so as to read, "all the elements of life are contained within this minute speck." The remainder of this sentence should be converted into a new one. It is not possible to agree "that a knowledge of the cell is intimately connected with the nature of life" (p. 701), though such knowledge must be intimately connected with a knowledge of the nature of life. It is commonly the case that the word "excreta" is misused as of the singular number; but it is more rare to find "ingesta" similarly ill treated, as on p. 223; minor faults of this kind occur frequently—see p. 63, for "occur" instead of "occurs"; p. 60, "cause" for "clause." On p. 84 nerves "flow" out. On p. 694, line 8 from top, "is" should be "becomes." Again (p. 702, line 12 from bottom), "In the present light of knowledge" should read "In the light of present knowledge." These selections have been made to indicate a line of revision; for modes of expression should be carefully adjusted; their educational value in the training of students should not be overlooked. But, apart from these defects, the work under review may be recommended as supplying a need.

NOTES ON BOOKS.

IN an interesting manual on *Nervous Breakdowns and How to Avoid Them*,⁷ written, we presume, for the benefit of the otherwise intelligent lay person, Dr. MUSGROVE has, with a plentitude of apt similes and illustrations, given in plain language an account of the protean symptoms of the elusive but very real disease now termed "neurasthenia." Quite rightly he draws a rigid distinction between this and the other psycho-neuroses, hysteria and hypochondriasis. Neurasthenia is a lonely malady, and the sufferer neither expects nor receives much sympathy. He would, indeed, welcome the dawning of the day when the ubiquitous microbe can be held responsible for his woes, for then at least he could depend upon a modicum of interest at the hands of the pathologist! There is much to be said for the suggestion that the secrets of health should be taught in all elementary schools. Only now in a casual kind of way is some regard for the priceless heritage of a sound body being inculcated into the minds of the rising generation, after the three R's have for many years done their deadly work. The chapters on health and diet contain many sensible if not necessarily original suggestions, and the author's remarks on that modern bugbear—worry—should give the modern business man much to ponder over. Obviously one of the dangers of a book of this kind in the hands of the laity is that by reason of the very generalization the subject demands it may foster introspection in the victims of the malady it discusses. There is a note of hope in the book, however, and if the time of prevention has gone past the remedy lies at every man's hand if he will but listen to the voice of reason in the shaping of his course of life.

⁷ *Nervous Breakdowns and How to Avoid them*. By Charles D. Musgrove, M.D. Bristol: J. W. Arrowsmith, Ltd. London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd. 1913. (Crown 8vo, pp. 196; 2s. 6d. net.)

THE Commission appointed some time ago by the Russian Government to study the question of the re-organization of the sanitary services of the Empire has presented its report. It recommends the establishment of a ministry of public health.

⁵ *Allen's Commercial Organic Analysis*. Vol. vii. Edited by W. A. Davis, B.Sc., A.C.G.I., and Samuel S. Sadtler, S.B. Fourth edition. London: J. and A. Churchill, 1913. (Roy. 8vo, pp. 572; figs. 28. 21s. net.)

⁶ *A Manual of Veterinary Physiology*. By Major-General F. Smith, C.B., C.M.G. Fourth edition. London: Baillière, Tindall, and Cox. 1912. (Demy 8vo, pp. 820; 1 plate; 260 figures.)